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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,992	03/11/2004	Eric R. Buhrke	CML01339T	5169

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EXAMINER

STORM, DONALD L

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/797,992	Applicant(s) BUHRKE, ERIC R.	
	Examiner Donald L. Storm	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Informalities

2. Claim 11 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the neural network" (line 2) needs clarification. Because no neural network was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phrase to refer to --a neural network--. Note that claim 11 could read more clearly with dependency to claim 10.

Claim Rejections - 35 USC § 102

Basu

3. Claims 1, 4, 5, 9, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Basu et al. [US Patent 6,594,629] using the same rationale as in the prior Office action (mailed June 28, 2005).

Sutton

4. Claims 1, 2, 9, 10, and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Sutton et al. [US Patent 6,539,354] using the same rationale as in the prior Office action (mailed June 28, 2005).

The following discussion supplements the prior Office action by providing further details of Sutton's teachings of the content and functionality of the following claim limitations:

receiving successive frames of digitized analog speech information obtained from the speech signal at a fixed rate [at column 19, lines 1-3, as receive an input stream in frames of a speech wave at a sampling rate in 10 ms frames];

filtering each of the successive frames to synchronously generate time domain vectors at the fixed rate [at column 19, lines 2-5, as compute, for each frame in 10 ms frames, a feature representation for each frame in 10 ms frames];

each of the vectors is derived from one of the successive frames [at column 19, line 5, as compute a feature representation for each frame];

analyzing each of the vectors to synchronously generate a set of visemes corresponding to each or the successive frames [at column 19, lines 5-16, as assemble each feature representation into a (feature) window, produce phoneme (phone) estimates using the window assembled from feature representations to have 16 10-ms frames, produce viseme data for the frames];

the vectors are frame classification vectors [at column 19, lines 5-16, as produce phoneme (phone) estimates using the window assembled from feature representations to have 16 10-ms frames, produce viseme data for the frames].

Claim Rejections - 35 USC § 103

Basu and Thomson

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basu et al. [US Patent 6,594,629] in view of David J. Thomson, "An Overview of Multiple-Window and Quadratic-Inverse Spectrum Estimation Methods," IEEE 1994, pp. VI 185-VI 194, using the same rationale as in the prior Office action (mailed June 28, 2005).

Sutton and Peterson

6. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutton et al. [US Patent 6,539,354] in view of Peterson et al. [US Patent 5,067,095] using the same rationale as in the prior Office action (mailed June 28, 2005).

Response to Arguments

7. The prior Office action, mailed June 28, 2005, requires rejects claims under 35 USC § 112, § 102, and § 103. The Applicant's arguments and changes in AMENDMENT, filed September 28, 2005, have been fully considered with the following results.

8. With respect to rejection of claim 8 under 35 USC § 112 as being incomplete, the changes entered by amendment provide the essential step. Accordingly, the rejection is removed.

9. With respect to rejection of claims under 35 USC § 102 citing Basu, the Applicant's arguments appear to be as follows:

The Applicant's argument appears to be that the claims clearly describe generating visemes from speech information that is audio information, but Basu only generates visemes from video. The claim further requires that the visemes be generated from audio speech vectors. This argument is not persuasive because claim 1 and claim 14 do not explicitly recite audio, and they do not explicitly recite generating visemes from any information. Regarding the visemes, the claims broadly require that the generated visemes correspond to the (successive frames of digitized) speech information, which is analog and is obtained from the speech (signal at a fixed rate), filtered, etc. The claims do not explicitly limit how or from what information the visemes are generated. Therefore, as long as Basu describes that correspondence, the claim limitation regarding the visemes is described, whether or not Basu describes generating visemes from video information, such as column 13. Basu describes generating visemes as mapping, and they correspond to speech information from the analog speech information as phonemes through the labeled, extracted vectors, as indicated in the previous Office action.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

10. With respect to rejection of claims under 35 USC § 102 citing Sutton, the Applicant's arguments appear to be as follows:

The Applicant's argument appears to be that Sutton's 160-msec assembly of digitized speech information qualifies as the "frame classification vector" of the claims, but that Sutton's 10-msec representation does not meet all the claim limitations. Sutton calls 160 msec a window, and the Applicant's argument calls that a frame. Sutton calls 10 msec a frame, and the Applicant's argument calls that a vector (or possibly the 10-msec set of features). The argument appears to continue that the 160-msec window/frame does not meet the limitation of being from one 10-msec frame/vector because the window/frame is derived from one frame/vector and 15 other frame/vectors.

That argument is not persuasive because the terminology of the claim is not explicit that each frame classification vector is derived from one, and only one, fixed-rate frame of speech information. Arguments by the Applicant in traversal are not the proper forum for restricting terminology. While claim language can still be amended, it is the Applicant's burden to precisely define the invention as claimed. The 35 U.S.C. Section 112, paragraph 2, puts the burden of precise claim drafting squarely on the applicant.

Moreover, that argument is not persuasive because Sutton's 10-msec frame/vector meets all the subject matter set forth by the claim limitations for being the "frame classification vector". Sutton's frame/vector is generated at the 10-msec rate and it is derived from (one) 10-msec of speech information. Sutton's frame/vector is analyzed and the analysis generates visemes corresponding to speech information at each 10 msec. Please refer to the supplementary details of the rejection citing Sutton as rewritten in this Office action.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

11. With respect to rejection of claims under 35 USC § 103 citing Basu and Thomson, the Applicant's arguments appear to include the same argument as for Basu alone (see above) and an additional argument as follows:

The Applicant's argument appears to be that the advantage of Thomson's MTDPSB functions to provide the best possible leakage properties for Basu's conversion to the spectral domain is different from other advantages that MTDPSB functions provide to the invention of the current claims, namely low latency.

That argument is not persuasive because an artisan may find the combination of teaching in the prior art advantageous for a different reason than the reason put forth by the Applicant. While the Applicant's argument here points to an advantage for low latency, it mistakenly relies on the premise that the prior art must teach that a particular reason is preferred for the combination to be obvious. As long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole, obviousness does not require that the teachings be combined for the reasons contemplated by the Applicant.

Note also that low latency is not an issue for Basu, and low latency is not an issue for claims 6-8.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

12. With respect to rejection of claims under 35 USC § 103 citing Sutton and Peterson, the Applicant's arguments appear to include the same argument as for Sutton alone (see above) and additional arguments as follows:

a. The Applicant's argument appears to be that Peterson does not describe how to operate a neural network to select visemes with Sutton's input that corresponds to the subject matter of the claims. This argument is not persuasive because Sutton teaches a neural network that operates with those vectors to select visemes. Peterson provides a particular construction of neural network and Peterson suggests its use for pattern or speech recognition; that use is also Sutton's use of the neural network.

b. The Applicant's argument appears to be that the combination of Peterson's SPANN with Sutton's speech information could not provide a latency less than 10 msec between Sutton's audio input and viseme output because Peterson does not fully describe what the latency is between audio input and output of recognition results. This argument is not persuasive because the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. The discussions by both Sutton and Peterson of low latency from first input to last output also motivate optimizing the latency of Sutton's neural network by demonstrating their similar goals. As the prior Office action says, a known latency of less than 10 msec provides the suggestion of optimizing Sutton to provide less than 10-msec processing, subject to tradeoffs against the degree of error that under-10-msec latency might enlarge.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any response to this action should be mailed to:

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(571) 273-8300, (please mark "EXPEDITED PROCEDURE"; for formal communications and for informal or draft communications, additionally marked "PROPOSED" or "DRAFT")

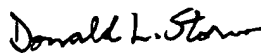
Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office, Customer Service Window, **Mail Stop AF**, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions

relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

November 8, 2005


Donald L. Storm
Examiner
Art Unit 2654